



Approval # 20010027

Environmental & Regulatory Services Division  
Bureau of Petroleum Products and Tanks  
201 West Washington Avenue  
P.O. Box 7837  
Madison, WI 53707-7837

## Wisconsin COMM 10 Material Approval

Equipment: TeleData TankMate SIR  
Version 3.2

Manufacturer: TeleData Inc.  
900 E. Ocean Blvd., Suite 250  
Stuart, FL. 34994

Expiration of Approval: December 31, 2007

---

### **SCOPE OF EVALUATION**

The TeleData Inc., Statistical Inventory Reconciliation (TankMate) System, Version 3.2, manufactured by TeleData, Inc., for leak detection of tanks and connected piping, has been evaluated for use as a method of monthly monitoring complying with **ss. COMM 10.61 (8) and 10.615 (3)** of the current edition of the Wisconsin Flammable and Combustible Liquids Code.

### **DESCRIPTION AND USE**

The TeleData Inc. TankMate SIR system functions as a quantitative method that analyzes inventory records for evidence of leaks. Based on an analysis of inventory records and application of a threshold, the method declares a tank to be tight, a leak indicated, the results inconclusive, or the data unusable. If a leak is indicated, an estimated leak rate will be given.

Data analysis is performed by the facility owner or employee, exclusive of external control by the vendor. System consists of fully a automated software package with embedded algorithms for conducting leak detection testing. Software and hardware setup provided by TeleData for each individual site. Training and support is provided via phone and/or modem. TeleData can access system on-line, for periodic quality control checks. This is done to maintain compliance; and to keep an accurate count on how many tanks are on the system. Changes made to any record in the database are archived for future reference.

The SIR system is capable of identifying and/or compensating for:

- Leak Rates  
(Identified and Quantified)
- Delivery Errors (Identify only)
- Unexplained Gains Or Losses  
(Identify only)
- Dispensing Meter Errors
- Calibration Errors
- Dipstick or Gauging Errors  
(Identify only)
- Conversion Chart Miscalibration
- Water Inflow Or Outflow  
(Identify only)
- Thermal Effects

Inventory data may be recorded manually or by use of an electronic or other tank monitor. Data that must be reported for leak detection analysis include:

- Measurement of product height and /or associated volume conversions for the days the tanks are in active operation.
- Deliveries or amount of product transferred to the tank by date and amount.
- A record of the amount of product dispensed from the tank system during each day of active use.
- Temperature of the product in the tank. (optional)

The facility may be closed for one or more consecutive days during the data collection period, but the inventory record under analysis must contain data from a minimum of 15 days of active use of the facility. Properly calibrated meters are required for use of the SIR system.

The SIR system will not give conclusive results if there is an insufficient number of usable inventory records, or unacceptable daily variability of inventory records.

If a leak is indicated, the leak could be located in any portion of the tank system, including piping. Additional testing may be needed to isolate the location of the leak.

## **TESTS AND RESULTS**

The performance of the TeleData Inc., Statistical Inventory Reconciliation (TankMate) system was determined in accordance with the EPA protocol for evaluation of statistical

inventory reconciliation methods, in conjunction with protocol from the National Work Group on Leak Detection Evaluations (NWGLDE) for testing manifolded tanks and determining size limitations. The SIR system was found to be capable of detecting a leak, using the manufacturer's threshold of 0.1 gallon per hour, with a probability of false alarm ( $P_{FA}$ ) of less than 0.02 percent. The probability of detection ( $P_D$ ) of a 0.10 gallon per hour leak was found to be greater than the minimum 95 percent required by regulation.

### **LIMITATIONS / CONDITIONS OF APPROVAL**

<b>Leak Threshold<sup>1</sup>:</b>	Varies between 0.05 gph and 0.2 gph based on MDL.
<b>Applicability:</b>	Gasoline, diesel, kerosene.
<b>Tank Capacity:</b>	Maximum 60,000-gallons for single tanks. Maximum 60,000-gallons aggregate for manifolded systems
<b>No. of Manifolded Tanks in System:</b>	Maximum of 3
<b>Data Requirement:</b>	Minimum of 15 days of product level and flow through data

<sup>1</sup>: MDL (minimum detectable leak rate) is calculated for each unique set of data, based on a statistical analysis of the inventory records for the selected time period (MDL is a measure of how good the data set is). The threshold is an action level leak rate and is usually one-half of the MDL. If the estimated leak rate equals or exceeds the threshold established by the MDL, the system will not be declared tight, and the SIR vendor shall declare a fail.

- The TeleData Inc., SIR (TankMate) system may be used as a method of monthly monitoring for tanks and connected piping complying with **ss. COMM 10.61 (8) and 10.615 (3)**. An example of the TankMate Monthly SIR Monitoring Report is attached for reference.
- All procedures for data collection specified by TeleData Inc., shall be used.
- TeleData Inc., shall provide an updated list of all Wisconsin users of the SIR system to the department every six months or whenever a new user is added. The list is to be sent to the address located on the cover sheet of this material approval. Copies of correspondence concerning UST system status between SIR system users and TeleData Inc., shall be supplied to the department by both TeleData Inc., and the facility operators, upon request. Continued approval shall be contingent upon department verification of operational viability of the SIR method.
- If the SIR test results indicate that a tank system is not tight, or the results are inconclusive, the suspected release investigation and confirmation procedures specified under **ss. COMM 10.63 and 10.64** shall be followed. In addition, within 48 hours, the Bureau of Petroleum Products and Tanks shall also receive written notification of those tank systems that are not considered tight or where the results are inconclusive. The notification may be provided by either TeleData Inc., or

directly from the facility operator, to the address on the cover sheet of this material approval.

- If a second test is required to confirm the status of a tank system, that test shall be an approved tightness test in accordance with **ss. COMM 10.635 (2)(a)**. The SIR method shall not be used to provide this second test.
- TeleData Inc. will perform an annual audit of each customer's TankMate system. Results of the audit will be submitted to the tank system owner for retention on-site. This report must be kept on-site by the owner; and available for review by an authorized Wisconsin Inspector/Permitting Agent upon request. An example of the audit report is attached for reference.

This approval will be valid through December 31, 2007, unless manufacturing modifications are made to the product or a re-examination is deemed necessary by the department. The Wisconsin Material Approval Number must be provided when plans that include this product are submitted for review.

#### **DISCLAIMER**

The Department is in no way endorsing or advertising this product. This approval addresses only the specified applications for the product and does not waive any code requirement unless specified in this document.

Reviewed by: \_\_\_\_\_

Greg Bareta, P. E.  
Engineering Consultant  
Bureau of Petroleum Products and Tanks

Approved by: \_\_\_\_\_ Date: \_\_\_\_\_

**TankMate Monthly SIR Report Example**

T A N K M A T E

MONTHLY STATISTICAL INVENTORY RECONCILIATION (SIR) REPORT  
 FACILITY NAME: \_\_\_\_\_ FACILITY ID#: \_\_\_\_\_  
 TANK LOCATION: \_\_\_\_\_

( ) OWNER/  
 ( ) OPERATOR

PHONE: \_\_\_\_\_

SIR PROVIDER: TeleData, Inc. PHONE: (561) 219-4661  
 SIR VERSION: TankMate 3.20 DATE OF SIR REPORT: 01/29/02 TIME 16:10:28  
 PERIOD COVERED: 12/01 Data points to calculate leak rate: 20 or more.

TANK NUMBER	TANK CONTENTS	TANK CAPACITY	LEAK THRESHOLD	MIN. DET. LEAK RATE	CALCULATED LEAK RATE	CRRNT P F I	PREV. P F I	2 MO. P F I
1100	GASOLINE	7,582	0.000	0.000	0.000			
1200	GASOLINE	6,000	0.000	0.000	0.000			
1300	GASOLINE	6,078	0.000	0.000	0.000			

NOTE: ( ) OWNER/( ) OPERATOR -> Be sure to check the appropriate status.  
 CRRNT = Current Month, PREV = Previous Month, 2 MO. = 2 months prior  
 P|F|I = Pass, Fail and Inconclusive

1. A copy of this SIR report form shall be maintained on-site for review for each month that SIR is used for release detection.
2. The report shall be completed by the 20th day of the following month.
3. Results of each monthly analysis must include the calculated results from the data set for leak threshold, the minimum detectable leak rate, the calculated leak rate, and a determination of whether the result of the test was 'Pass', 'Fail', or 'Inconclusive'.
4. 'Pass' means the calculated leak rate for the data set is less than the leak threshold and the minimum detectable leak rate is less than or equal to the certified performance standard (0.2gph).
5. 'Fail' means the calculated leak rate for the data set is equal to or greater than the leak threshold.
6. 'Inconclusive' means the minimum detectable leak rate exceeds the certified performance standard (0.2gph) and the calculated leak rate is less than the leak threshold. If for any other reason the test result is not a 'Pass' or 'Fail', the result is 'Inconclusive'.
7. If the SIR test results indicate that a tank system is not tight, or the results are inconclusive, the suspected release investigation and confirmation procedures specified under ss.COMM 10.63 and 10.64 shall be followed. In addition, within 48 hours, the Bureau of Petroleum Products and Tanks shall also receive written notification of those tanks systems that are not considered tight or where the results are inconclusive. The notification may be provided by either TeleData Inc. or directly from the facility operator, to the following address:

Environmental and Regulatory Services Division  
 Bureau of Petroleum Products and Tanks  
 201 West Washington Avenue  
 P.O. Box 7837  
 Madison WI 53707-7837

Person conducting evaluation \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

Signature: \_\_\_\_\_

Tank Owner/Operator: \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

Signature: \_\_\_\_\_

**TankMate Audit Report Example**

900 East Ocean Blvd.  
Suite 250  
Stuart, FL 34994  
Tel (800) 788-5091

**TeleData Inc.**

Current Date

Customer name  
Customer address  
Store Number  
Tanks

We have reviewed the above customer's information for the period \_\_\_\_\_  
to \_\_\_\_\_ and they appear to be operating within the guidelines of the system.

Signed \_\_\_\_\_